

HPD UNIQUE IDENTIFIER: 2660019200

CLASSIFICATION: 05 12 16 Fabricated Fire Protected Steel Columns

PRODUCT DESCRIPTION: This HPD covers Fire Trol® fireproof column from Fire-Trol Company a branch of United Steel Inc.,. Specifically, it covers column configuration SS, [Square shell casing with interior Square structural column]. Fire Trol® columns are designed as a prefabricated fireproof unit consisting of a load-bearing steel column encased in a concrete and vermiculite materials which is permanently protected by an outer shell of non-load-bearing steel. Fire Trol® columns are rated and labeled by Underwriters Laboratories for fire retardant classification of 2, 3 and 4 hour rating as per ASTM E 119, as well as the latest specifications of the American Institute of Steel Construction (AISC), and the American Concrete institute (ACI).

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format	Threshold Level	Residuals/Impurities Evaluation	<i>For all contents above the threshold, the manufacturer has:</i>
<input checked="" type="radio"/> Nested Materials Method	<input type="radio"/> 100 ppm	Completed in 5 of 5 Materials	Characterized <input checked="" type="radio"/> Yes <input type="radio"/> No
<input type="radio"/> Basic Method	<input checked="" type="radio"/> 1,000 ppm	Explanation(s) provided for Residuals/Impurities?	<i>Provided weight and role.</i>
Threshold Disclosed Per	<input type="radio"/> Per GHS SDS	<input checked="" type="radio"/> Yes <input type="radio"/> No	Screened <input checked="" type="radio"/> Yes <input type="radio"/> No
<input type="radio"/> Material	<input type="radio"/> Other		<i>Provided screening results using HPDC-approved methods.</i>
<input checked="" type="radio"/> Product			Identified <input checked="" type="radio"/> Yes <input type="radio"/> No
			<i>Provided name and CAS RN or other identifier.</i>

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

Number of Greenscreen BM-4/BM3 contents ... 5

Contents highest-concern GreenScreen score(s) (BM-1, LT-1, LT-P1) ... LT-P1, BM-1, LT-1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

NESTED MATERIAL | MATERIAL OR SUBSTANCE | RESIDUAL OR IMPURITY

GREENSCREEN SCORE | HAZARD TYPE

STEEL PIPE AND STEEL TUBE PARTS [**IRON, ELEMENTAL** LT-P1]
 END **MANGANESE** LT-P1] END | MUL | REP | MAM | AQU **CARBON**
LT-UNK SILICON, ELEMENTAL LT-UNK **COPPER** LT-P1] MUL | AQU |
 MAM **CHROMIUM** LT-P1] END | SKI | MAM | REP | RES **NICKEL** LT-1]
 CAN | MUL | RES | MAM | SKI | AQU **ALUMINUM** BM-1] END | MAM |
 PHY **MOLYBDENUM** LT-UNK] MAM | SKI | REP **SULFUR,**
PRECIPITATED LT-UNK] SKI | MAM **PHOSPHORUS** BM-2] MAM | PHY
 | EYE | AQU | SKI **NITROGEN** NoGS] **CONCRETE** [**QUARTZ** BM-1]
 CAN | MAM | GEN **PORTLAND CEMENT** LT-P1] CAN | END | MAM
WATER BM-4 **POZZOLANS, COAL-ASH** NoGS] **WATER** [**WATER** BM-4]
VERMICULITE [**SILICON DIOXIDE** BM-1] CAN | MAM **MAGNESIUM OXIDE** BM-3dg]
 CAN | MAM **ALUMINUM OXIDE** BM-2] MAM **FERRIC OXIDE** BM-1]
 CAN | MAM **POTASSIUM OXIDE** BM-2] **TITANIUM DIOXIDE** BM-1]
 CAN | END | MAM **CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8)** BM-2]
 SKI | MAM | EYE **SODIUM OXIDE** BM-2]
DICHRONIUM TRIOXIDE BM-1] SKI | MAM **MANGANESE (II) OXIDE** LT-P1]
 SKI | EYE | MAM **PHOSPHORUS PENTOXIDE** LT-P1] SKI | EYE |
 MAM **QUARTZ** BM-1] CAN | MAM | GEN] **CEMENT** [**PORTLAND CEMENT** LT-P1]
 CAN | END | MAM **CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8)** BM-2]
 SKI | MAM | EYE **SILICON DIOXIDE** BM-1]
 CAN | MAM **LIMESTONE** BM-3dg] **ALUMINUM OXIDE** BM-2] MAM
SULFUR TRIOXIDE BM-2] MAM **FERRIC OXIDE** BM-1] CAN | MAM
MAGNESIUM OXIDE BM-3dg] CAN | MAM **POTASSIUM OXIDE** BM-2]
SODIUM OXIDE BM-2]

This HPD has been prepared using a Nested Materials Inventory with a product threshold at 1000 ppm and group various configuration of Fire-trol® fireproof columns which introduces ranges in content inventory. Fire-trol® fireproof column include different steel based materials provided by many suppliers. It was chosen in this HPD to group all steel pipe and steel tube parts regardless of the steel used. Steel based components are similar and the variation comes from alloying elements and/or surface treatment which both represent small quantities in the overall steel products. More details about how residuals and impurities were considered available in the appropriate sections. Guidelines for reporting Specials Conditions materials are still under development by HPDC. Fire-Trol® company will update the HPD accordingly once these guidelines are published. Please note that warning BM-1, provided by the HPD Builder tool, applies to Quartz sand (Silicon dioxide) used only in its dry form, when not activated by water. This warning must be observed when mixing with water or when aggravated during (including, but not limited to, cutting, drilling, chipping, crushing or grinding).

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings.

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Option 1.

Pre-checked for LEED v4.1 Option 1.

Third Party Verified?

Yes

No

PREPARER: Vertima

VERIFIER:

VERIFICATION #:

SCREENING DATE: 2025-03-17

PUBLISHED DATE: 2025-03-17

EXPIRY DATE: 2028-03-17

Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.3, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-3-standard

STEEL PIPE AND STEEL TUBE PARTS %: 52.0000

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Metal

RESIDUALS AND IMPURITIES NOTES: Only residuals and impurities present within the chosen disclosure threshold have provided by suppliers. Some suppliers report residuals and impurities were considered under 100 ppm threshold. Based on steel suppliers, the recycled content (RC) is declared 24.8% - 36.9% for BOF and 76.0% for EAF.

OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe.

IRON, ELEMENTAL

ID: 7439-89-6

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:44**

%: **98.6900** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
-------------	----------------------	----------

END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
-----	---------------------------------------	-------------------------------

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
---------------------	----------------------	--------------

None found		No listings found on Additional Hazard Lists
------------	--	--

SUBSTANCE NOTES: Please refer to Other Material Notes.

MANGANESE

ID: 7439-96-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:44**

%: **0.0000 - 0.7300** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MUL	German FEA - Substances Hazardous to Waters	Class 3 - Severe Hazard to Waters
REP	GHS - Japan	H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
AQU	GHS - New Zealand	Hazardous to the aquatic environment - chronic category 3
AQU	GHS - Japan	H401 - Toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 2]
AQU	GHS - Japan	H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

CARBON

ID: 7440-44-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:45**

#: **0.0000 - 0.2400**

GreenScreen: **LT-UNK**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Please refer to Other Material Notes.

SILICON, ELEMENTAL

ID: 7440-21-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:46**

#: **0.0000 - 0.0800** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

COPPER

ID: 7440-50-8

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:46**

#: **0.0000 - 0.0800** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
MUL	German FEA - Substances Hazardous to Waters	Class 3 - Severe Hazard to Waters
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2]
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Perkins+Will (P+W)	P&W - Precautionary List Precautionary list of substances recommended for avoidance
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

CHROMIUM

ID: 7440-47-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:46**

#: **0.0000 - 0.0600** GreenScreen: **LT-P1** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
SKI	MAK	Sensitizing Substance Sh - Danger of skin sensitization
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
REP	GHS - New Zealand	Reproductive toxicity category 2
RES	GHS - Japan	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled [Respiratory sensitization - Category 1A]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

NICKEL

ID: 7440-02-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:46**

#: **0.0000 - 0.0500**

GreenScreen: **LT-1**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man
MUL	German FEA - Substances Hazardous to Waters	Class 3 - Severe Hazard to Waters
CAN	IARC	Group 1 - Agent is Carcinogenic to humans
CAN	CA EPA - Prop 65	Carcinogen
CAN	US NIH - Report on Carcinogens	Known to be a human Carcinogen
CAN	IARC	Group 2b - Possibly carcinogenic to humans
CAN	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
RES	MAK	Sensitizing Substance Sah - Danger of airway & skin sensitization
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
MAM	EU - GHS (H-Statements) Annex 6 Table 3-1	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
CAN	GHS - New Zealand	Carcinogenicity category 2
CAN	GHS - Japan	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
SKI	GHS - New Zealand	Skin sensitisation category 1
AQU	GHS - New Zealand	Hazardous to the aquatic environment - acute category 1
AQU	GHS - New Zealand	Hazardous to the aquatic environment - chronic category 1
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Certain Metals
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Footwear, Apparel & Jewelry Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 All Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

ALUMINUM

ID: 7429-90-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:47**

#: **0.0000 - 0.0400**

GreenScreen: **BM-1**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
PHY	GHS - Japan	H261 - In contact with water releases flammable gas [Substances and mixtures, which in contact with water, emit flammable gases - Category 2]
PHY	GHS - Malaysia	H250 - Catches fire spontaneously if exposed to air [Pyrophoric liquids; Pyrophoric solids - Category 1]
PHY	GHS - Australia	H250 - Catches fire spontaneously if exposed to air [Pyrophoric liquids; Pyrophoric solids - Category 1]
PHY	GHS - New Zealand	Pyrophoric solids category 1

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

MOLYBDENUM

ID: 7439-98-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:47**

#: **0.0000 - 0.0200** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
SKI	GHS - Japan	H315 - Causes skin irritation [Skin corrosion / irritation - Category 2]
REP	GHS - New Zealand	Reproductive toxicity category 2

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

SULFUR, PRECIPITATED

ID: 7704-34-9

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:47**

%: **0.0000 - 0.0100** GreenScreen: **LT-UNK** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
SKI	GHS - New Zealand	Skin irritation category 2
SKI	GHS - Australia	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Please refer to Other Material Notes.

PHOSPHORUS

ID: 7723-14-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:48**

%: **0.0000 - 0.0100** GreenScreen: **BM-2** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
MAM	US EPA - EPCRA Extremely Hazardous Substances	Extremely Hazardous Substances
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1
PHY	GHS - New Zealand	Pyrophoric solids category 1
EYE	GHS - New Zealand	Serious eye damage category 1
AQU	GHS - New Zealand	Hazardous to the aquatic environment - acute category 1
AQU	GHS - New Zealand	Hazardous to the aquatic environment - chronic category 1
MAM	Québec CSST - WHMIS 1988	Class D1A - Very toxic material causing immediate and serious toxic effects
SKI	GHS - New Zealand	Skin corrosion category 1A
MAM	GHS - New Zealand	Acute dermal toxicity category 1
MAM	GHS - New Zealand	Acute inhalation toxicity category 1
MAM	GHS - New Zealand	Acute oral toxicity category 1

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

NITROGEN

ID: 7727-37-9

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:48**

#: **0.0000 - 0.0100** GreenScreen: **NoGS** RC: **Both** NANO: **No** SUBSTANCE ROLE: **Alloy element**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
EXEMPT	European Union / European Commission (EU EC)	EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety

SUBSTANCE NOTES: Please refer to Other Material Notes.

CONCRETE

%: 36.0000

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes

MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: Potential impurity of Portland Cement and various geological materials, based on information provided by suppliers.

OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe.

QUARTZ

ID: 14808-60-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:49**

%: **60.0000 - 95.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CAN	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man
CAN	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources
CAN	IARC	Group 1 - Agent is Carcinogenic to humans
CAN	CA EPA - Prop 65	Carcinogen
CAN	US NIH - Report on Carcinogens	Known to be a human Carcinogen
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
CAN	GHS - New Zealand	Carcinogenicity category 1
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
GEN	GHS - Japan	H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Represent Aggregate + Quartz sand. Please refer to Other Material Notes.

PORTLAND CEMENT

ID: 65997-15-1

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:49**

#: **3.0000 - 20.0000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Binder**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Represent Hydraulic cement (Portland). Please refer to Other Material Notes.

WATER

ID: 7732-18-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:50**

#: **6.0000 - 13.0000** GreenScreen: **BM-4** RC: **None** NANO: **No** SUBSTANCE ROLE: **Solvent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
EXEMPT	European Union / European Commission (EU EC)	EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety

SUBSTANCE NOTES: Please refer to Other Material Notes.

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:36:48**%: **0.0000 - 11.0000**GreenScreen: **NoGS**RC: **None**NANO: **No**SUBSTANCE ROLE: **Filler**

HAZARD TYPE

LIST NAME AND SOURCE

WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS

LIST NAME AND SOURCE

NOTIFICATION

None found

No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

WATER

%: **6.0000**PRODUCT THRESHOLD: 1000
ppmRESIDUALS AND IMPURITIES EVALUATION COMPLETED:
YesMATERIAL TYPE: Geologically Derived
Material

RESIDUALS AND IMPURITIES NOTES: No known residuals and impurities above the 1000 pm threshold.

OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe. Water drawn from the mains of city.

WATER

ID: **7732-18-5**HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:36:49**%: **100.0000**GreenScreen: **BM-4**RC: **None**NANO: **No**SUBSTANCE ROLE: **Solvent**

HAZARD TYPE

LIST NAME AND SOURCE

WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS

LIST NAME AND SOURCE

NOTIFICATION

EXEMPT

European Union / European Commission (EU
EC)

EU - REACH Exemptions

Exempted from REACH Annex IV listing due to intrinsic
safety

SUBSTANCE NOTES: Please refer to Other Material Notes.

VERMICULITE

%: **2.0000**PRODUCT THRESHOLD: 1000
ppmRESIDUALS AND IMPURITIES EVALUATION COMPLETED:
YesMATERIAL TYPE: Geologically Derived
Material

RESIDUALS AND IMPURITIES NOTES: No known potential residuals/impurities for Vermiculite above 1000 ppm threshold based information provided by suppliers.

OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe.

SILICON DIOXIDE

ID: 7631-86-9

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:36:49**%: **36.0000 - 44.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Desiccant**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Please refer to Other Material Notes.

MAGNESIUM OXIDE

ID: 1309-48-4

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:36:50**%: **17.0000 - 22.0000** GreenScreen: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Stabilizer**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

ALUMINUM OXIDE

ID: 1344-28-1

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2025-03-17 6:36:51**%: **10.0000 - 15.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Stabilizer**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

FERRIC OXIDE

ID: 1309-37-1

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:49**

%: **9.0000 - 13.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Catalyst**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

POTASSIUM OXIDE

ID: 12136-45-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:50**

#: 3.0000 - 6.0000

GreenScreen: **BM-2**

RC: **None**

NANO: **No**

SUBSTANCE ROLE: **Fixing agent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

TITANIUM DIOXIDE

ID: **13463-67-7**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:51**

#: 1.0000 - 3.0000

GreenScreen: **BM-1**

RC: **None**

NANO: **No**

SUBSTANCE ROLE: **Absorbent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CAN	IARC	Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources
CAN	MAK	Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
CAN	IARC	Group 2b - Possibly carcinogenic to humans
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
CAN	GHS - Japan	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP11)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP11)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Formulated Consumer Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP11)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE Safer Chemicals Ingredients list (SCIL) Colorants - Green Circle (Verified Low Concern)
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP11)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Cosmetics and Personal Care Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8)

ID: 60873-85-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:51**

%: **0.5000 - 3.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Reagent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	GHS - Australia	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
SKI	GHS - New Zealand	Skin corrosion category 1C
EYE	GHS - New Zealand	Serious eye damage category 1
EYE	GHS - Japan	H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1]
SKI	GHS - Japan	H315 - Causes skin irritation [Skin corrosion / irritation - Category 2]
EYE	GHS - Australia	H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials
SUBSTANCE NOTES: Please refer to Other Material Notes.		

SODIUM OXIDE

ID: **1313-59-3**

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-03-17 6:36:52		
%: 0.1000 - 0.3000	GreenScreen: BM-2	RC: None	NANO: No	SUBSTANCE ROLE: Activator
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		
SUBSTANCE NOTES: Please refer to Other Material Notes.				

DICHRONIUM TRIOXIDE

ID: **1308-38-9**

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-03-17 6:36:51		
%: 0.1000 - 0.2000	GreenScreen: BM-1	RC: None	NANO: No	SUBSTANCE ROLE: Reagent
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
SKI	MAK	Sensitizing Substance Sh - Danger of skin sensitization		
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products		

SUBSTANCE NOTES: Please refer to Other Material Notes.

MANGANESE (II) OXIDE

ID: 1344-43-0

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:52**

%: **0.1000 - 0.2000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adsorbent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	GHS - New Zealand	Skin irritation category 2
EYE	GHS - New Zealand	Eye irritation category 2
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP11)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP11)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP11)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products

SUBSTANCE NOTES: Please refer to Other Material Notes.

PHOSPHORUS PENTOXIDE

ID: 1314-56-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:53**

%: **0.1000 - 0.2000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Desiccant**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
EYE	GHS - New Zealand	Serious eye damage category 1
EYE	GHS - Japan	H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1]
SKI	GHS - Japan	H314 - Causes severe skin burns and eye damage [Skin corrosion / irritation - Category 1]
SKI	GHS - Australia	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
SKI	GHS - Korea	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1]
SKI	GHS - New Zealand	Skin corrosion category 1B
MAM	Québec CSST - WHMIS 1988	Class D1A - Very toxic material causing immediate and serious toxic effects
MAM	GHS - Korea	H330 - Fatal if inhaled [Acute toxicity (inhalation) - Category 2]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

QUARTZ

ID: 14808-60-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:54**

%: **0.0000 - 0.0010**

GreenScreen: **BM-1**

RC: **None**

NANO: **No**

SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CAN	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man
CAN	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources
CAN	IARC	Group 1 - Agent is Carcinogenic to humans
CAN	CA EPA - Prop 65	Carcinogen
CAN	US NIH - Report on Carcinogens	Known to be a human Carcinogen
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
CAN	GHS - New Zealand	Carcinogenicity category 1
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
GEN	GHS - Japan	H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

CEMENT

#: 2.0000

PRODUCT THRESHOLD: 1000 ppm	RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes	MATERIAL TYPE: Geologically Derived Material
-----------------------------	--	--

RESIDUALS AND IMPURITIES NOTES: Potential impurity of Portland Cement and various geological materials, based on information provided by suppliers and Pharos CML.

OTHER MATERIAL NOTES: Weight ranges are used to cover multiple products and to not reveal exact recipe.

PORTLAND CEMENT

ID: 65997-15-1

#: **89.0000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Binder**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8)

ID: **60873-85-0**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:51**

#: **0.0000 - 6.8700** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Reagent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	GHS - Australia	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
SKI	GHS - New Zealand	Skin corrosion category 1C
EYE	GHS - New Zealand	Serious eye damage category 1
EYE	GHS - Japan	H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1]
SKI	GHS - Japan	H315 - Causes skin irritation [Skin corrosion / irritation - Category 2]
EYE	GHS - Australia	H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Please refer to Other Material Notes.

SILICON DIOXIDE

ID: 7631-86-9

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:53**

#: **0.0000 - 2.0500** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Desiccant**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Please refer to Other Material Notes.

LIMESTONE

ID: 1317-65-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:53**

#: **0.0000 - 0.5200** GreenScreen: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Filler**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

ALUMINUM OXIDE

ID: 1344-28-1

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:54**

%: 0.0000 - 0.5100	GreenScreen: BM-2	RC: None	NANO: No	SUBSTANCE ROLE: Filler
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]		
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022		
		Biological and Environmentally Released Materials		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022		
		Children's Products		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024		
		Children's Toy Products		

SUBSTANCE NOTES: Please refer to Other Material Notes.

SULFUR TRIOXIDE

ID: **7446-11-9**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:54**

%: 0.0000 - 0.3500	GreenScreen: BM-2	RC: None	NANO: No	SUBSTANCE ROLE: Reagent
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
MAM	US EPA - EPCRA Extremely Hazardous Substances	Extremely Hazardous Substances		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		

SUBSTANCE NOTES: Please refer to Other Material Notes.

FERRIC OXIDE

ID: **1309-37-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-17 6:36:52**

%: 0.0000 - 0.3200	GreenScreen: BM-1	RC: None	NANO: No	SUBSTANCE ROLE: Catalyst
---------------------------	--------------------------	-----------------	-----------------	---------------------------------

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

MAGNESIUM OXIDE

ID: 1309-48-4

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:53**

#: **0.0000 - 0.2300** GreenScreen: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Stabilizer**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

POTASSIUM OXIDE

ID: 12136-45-7

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:54**

#: **0.0000 - 0.1000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Fixing agent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

SODIUM OXIDE

ID: **1313-59-3**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-03-17 6:36:54**

#: **0.0000 - 0.0400**

GreenScreen: **BM-2**

RC: **None**

NANO: **No**

SUBSTANCE ROLE: **Activator**

HAZARD TYPE

LIST NAME AND SOURCE

WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS

LIST NAME AND SOURCE

NOTIFICATION

None found

No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Please refer to Other Material Notes.

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS	CDPH Standard Method - Not tested	
CERTIFYING PARTY: Self-declared	ISSUE DATE: 2025-02-25 00:00:00	CERTIFIER OR LAB: None
APPLICABLE FACILITIES: All FIRE TROL® fireproof columns facilities in CT, USA	EXPIRY DATE:	
CERTIFICATE URL:		
CERTIFICATION AND COMPLIANCE NOTES:		

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

The inner load-bearing core column can be a wide-flange, (WF), pipe or hollow steel section, (HSS) shape, meeting current ASTM grades, when HSS is specified, 4K psi concrete is pumped into the core column to maintain the UL fire rating. All core column fabrication is within accordance with American Institute of Steel Construction, (AISC), standards and practices.

MANUFACTURER INFORMATION

MANUFACTURER: **United Steel, Inc**
 ADDRESS: **164 School Street**
East Hartford, Connecticut 06108
 COUNTRY: **USA**

WEBSITE: **www.Fire-Trol.com**
 CONTACT NAME: **Tricia Brindle**
 TITLE: **National Sales Manager**
 PHONE: **+1 (860) 810-5703**
 EMAIL: **Trish@Fire-Trol.com**

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

AQU Aquatic toxicity	LAN Land toxicity	PHY Physical hazard (flammable or reactive)
CAN Cancer	MAM Mammalian/systemic/organ toxicity	REP Reproductive
DEV Developmental toxicity	MUL Multiple	RES Respiratory sensitization
END Endocrine activity	NEU Neurotoxicity	SKI Skin sensitization/irritation/corrosivity
EYE Eye irritation/corrosivity	NF Not found on Priority Hazard Lists	UNK Unknown
GEN Gene mutation	OZO Ozone depletion	
GLO Global warming	PBT Persistent, bioaccumulative, and toxic	

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)	LT-P1 List Translator Possible 1 (Possible Benchmark-1)
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-1 List Translator 1 (Likely Benchmark-1)
BM-2 Benchmark 2 (use but search for safer substitutes)	LT-UNK List Translator Benchmark Unknown
BM-1 Benchmark 1 (avoid - chemical of high concern)	NoGS No GreenScreen.
BM-U Benchmark Unspecified (due to insufficient data)	

GreenScreen Benchmark scores sometimes also carry subscripts, which provide more context for how the score was determined. These are DG (data gap), TP (transformation product), and CoHC (chemical of high concern). For more information, see 2.2.2.4 GreenScreen® for Safer Chemicals, www.greenscreenchemicals.org, and Best Practices for Hazard Screening on the HPDC website (hpd-collaborative.org).

Recycled Types

PreC Pre-consumer recycled content
PostC Post-consumer recycled content
UNK Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms:

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- *a method for the assessment of exposure or risk associated with product handling or use,*
- *a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.*

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and

